

INDIANA STATEWIDE FOREST STRATEGY

June 2010



Indiana Statewide Forest Strategy

The Indiana Statewide Forest Strategy is the result of consensus opinion from natural resource professionals, landowners, conservationists, land stewards and forest stakeholders. It incorporates the 2010 Forest Stewardship & Conservation Forum, Statewide Forest Strategy Input & Survey process and “open door” website comments. Documentation of these events and processes as well as other detailed procedural information can be found on the Statewide Forest Assessment & Strategy webpage: <http://www.in.gov/dnr/forestry/5436.htm>.

This strategy recognizes a nearly unanimous understanding of the most important issues that increasingly threaten the sustainability and ecological capacity of Indiana’s forests to provide the benefits of clean air, carbon sequestration, soil protection, wildlife habitat, wood products and other values, goods and services to all Hoosier citizens. The majority of these issues are not new. There are current programs in place and efforts underway that are making progress and should not be neglected. This strategy represents a focus on the most important new initiatives and areas to expand and develop.

The Indiana Statewide Forest Strategy is intended to be readable as a stand alone document but should be understood as a companion to the [Indiana Statewide Forest Assessment](#) and it is assumed throughout the text that readers have a thorough understanding of the forest issues described therein, including their drivers, and geospatial component aspects.

This is a long term plan that intends to address a limited forest base being broken into smaller and more disconnected pieces or being converted to other land uses, like subdivision housing, row crop agriculture and paved surfaces. Over the next five years this plan will enhance Indiana forests’ ability conserve soil and water resources by protecting existing targeted forest cover in watersheds and promoting reforestation along key streams and rivers. This strategy will guide and improve efforts to control and combat the economically and ecologically disastrous effects of invasive plants in woodlands and make dramatic strides in the preservation of biological diversity by assuring that increasingly simplified and one-dimensional forests become more diverse and connected with one another.

Natural resource professionals and forest stakeholders are not often asked to step back from their management areas or local woodlands and consider all of Indiana’s 5.1 million acres of forestland together, but with this landscape-scale view they recognize that Indiana’s forests are at a turning point. For Hoosiers to continue to hear neo-tropical migratory birds in summer, to use sustainable, locally harvested wood products, to see oak seedlings rise to replace other oaks in the canopy, to feel the drumming of the ruffed grouse in spring and to enjoy large contiguous tracts of private and public forestland in Indiana, this community of Hoosier forest

stakeholders must work together with the general public to voice our desire for a future forest that grows from our common understanding.

It is helpful to reiterate that is a prioritized strategy for all Indiana's forestlands: public, private and urban. It is premised on cooperation and coordinated partnerships that will focus resources toward our most pressing issues and in the areas where they will do the most good. Thousands of survey responses, hundreds of verbal and written comments, days of summit and forum deliberations have yielded the following consensus long-term strategies:

- 1.) Conserve, manage and protect existing forests, especially large forest patches
- 2.) Restore and connect forests, especially in riparian areas
- 3.) Expand Best Management Practices with special attention to Invasive Species
- 4.) Coordinate education, training, and technical assistance, especially develop strategic partnerships with land use decision makers
- 5.) Maintain and expand markets for Indiana hardwoods, especially sustainably certified and local use

Adaptation and evolution of this document are considered required and appropriate responses to changing conditions as measured in the Indiana Statewide Forest Assessment.

Strategy 1: Conserve, manage and protect existing forests, especially large forest patches

To insure the long term health and sustainability of Indiana's woodland resources it is paramount that existing forests, especially large tract forests be conserved, managed and expanded. Particular emphasis is given to action steps that keep forests on the landscape, promote landscape level diversity and address threats presented by invasive species.

The centerpiece of this strategy is the development of a Strategic Forestland Conservation Program with a directed focus on protecting tracts, forests, habitats and forest communities of especially high public benefit, as detailed in accompanying map (See Figure 1). These forest patches reflect the 2010 Statewide Forest Assessment's Highest Priority Areas for Fragmentation, Soil & Water Conservation, Invasive Species Risk and Biological Diversity (See Figure 2) and have been refined to highlight stakeholder strategic interest consensus on conserving large forest patches in less fragmented areas with a decreased risk of development.

The Strategic Forestland Conservation Program will develop a wide variety of action steps to establish and achieve percentage forest cover goals within each Target Forest Patch and varying percentages of protection by fee purchase land acquisition, conservation easement, [Classified Forest and Wildlands Program](#) enrollment, and increases in land under management. The Strategic Forestland Conservation Program should also measure success and set goals for changes in forest parcel sizes over time. Data to analyze the majority of counties' parcel level data is soon to be online (See Figure 3).

Component: Develop a Strategic Forestland Conservation Program and increase incentives to keep forests as forests

Actions Steps

- 1.1 Establish Strategic Forestland Conservation Program overseen by the Forest Stewardship Coordinating Committee and the State Forester whose mission is to conserve, manage and protect each Target Forest Patch according to a set of goals described above and using an area-specific set of conservation "tools" including those identified in action steps below. Descriptive information about the Strategic Forestland Conservation Program's Target Forest Patches is available in Appendix B.
- 1.2 Create an Indiana Forest Mitigation Bank by requiring mitigation for the disturbance or destruction of forestland habitat in Indiana. A Forest Mitigation Bank holds and sells approved forestland credits associated with the ecological value of 1-acre forestland to developers. Forest Mitigation Bank restores forests in priority areas (See Figure 1) to achieve broad goals. A percentage of mitigation parcels will increase and connect public ownership in Target Forest Patches. Majority forest stakeholder interests are supported by

the general public on measures relating to the loss of forest acreage in the State. According to the 2009 Indiana Residents' Perceptions of Woodland Management general public survey by Purdue University, 79% of Hoosiers disapprove of "cutting Indiana trees to make room for new homes." This action step requires State level legal or regulatory changes.

- 1.3 Increase economic incentives to keep land in forest, restore forests, slow parcelization and consolidate small tracts with emphasis and additional incentives for large tract forests. This action step includes targeted tax incentives, cost share and conservation payments and economic development for forest services and products other than lumber (See Strategy 5). Also work with various commissions, counties and others to develop demand for lower quality hardwoods present in improvement cuts and urban wood "waste". This action step could require State or Federal level legal or regulatory changes.
- 1.4 Increase the number of woodland parcels that are under management as quantified by a management plan, cost share practices or other type of assistance.
- 1.5 Increase ability to pass forests to next generation without parcelization by providing successional planning information, training and resources to landowners to facilitate a smooth and sustainable transition of property to the next generation, and offering similar training to financial advisors and attorneys. Tools such as conservation agreements/easements should be readily available.
- 1.6 Assist in the development of Green Infrastructure Plans to determine which urban geographies are well suited for smart growth and which areas should be conserved as important green infrastructure. Work with regional government, counties, cities and developers to promote conservation, development in areas that are already developed and the use of existing infrastructure corridors. This action step could require regional, metropolitan, or county level legal or regulatory changes.
- 1.7 Develop effective and efficient techniques to support and assist small acreage landowners (<10 acres of forest) in managing for woodland health and integrity, for example, develop a Legacy or Heritage Woodlands Program or awards for environmental quality achievements. This action step could require State level legal or regulatory changes.
- 1.8 Increase State Division of Forestry funding to administer programs. Example of increasing or redirecting Division of Forestry program monies (i.e. camping fee, gate fee, other user fees; forester property visits, educational events). This action step requires State level legal or regulatory changes.
- 1.9 Secure and appropriate funds for Indiana Heritage Trust to acquire land from willing sellers and protect Indiana's rich natural heritage. Consolidate public landholdings and develop partnership/conservation agreements with landowners adjoining public lands.
- 1.10 Develop a unique Agricultural Commodity Check Off program for timber to provide funds for management incentives (50%), research (25%), and product promotion (25%). Timber Check Off program will improve the quality of hardwoods grown in Indiana, expand existing markets, increase demand and create new uses and markets. (See Strategy 5)
- 1.11 Explore payments for ecosystem services, like water quality trading, biodiversity offsets (i.e. T&E mitigation) and others.

- 1.12 Explore the concepts of Conservation Bonding and Transferable Development Rights.
- 1.13 Monitor the effects of forestland tax assessment changes in the State.

Component: Increase the percent of forest in the age class of <19 and >100 years old

The U.S. Forest Service's Forest Inventory Analysis (FIA) shows that 90% of Indiana's forests are of a stand age class between 20 and 99 years (FIA, 2008). This presents a variety of issues for the sustainability of Indiana's forested ecosystems. The following action steps serve to create a greater balance across age classes to the benefit of those species and communities that require these habitat types and the greater vitality, diversity and adaptive capacity of the systems as a whole.

Actions Steps

- 1.14 Utilize and develop forestry remote sensing to refine existing statewide stand age and forest type data to be compatible with high resolution GIS analysis as used in the 2010 Statewide Forest Assessment and identify areas of under represented age classes.
- 1.15 Increase the targeted use of even age management on large land holdings across both public & private lands to develop landscape components of younger forests (<19 years). Encourage landowners and public agencies to manage forests collectively and in consideration of landscape scale characteristics such as age class proximity and remaining populations of early successional dependent wildlife.
- 1.16 Provide incentives for landowners to allow properties to return to forest cover or incentives for forest restoration.

Component: Develop statewide Early Detection Rapid Response Program (EDRR) for forest invasive plants

Actions Steps

- 1.17 Establish statewide inventory of forest invasive plants.
- 1.18 Coordinate with the Invasive Species Council (See Strategy 4) to establish organizational leadership and responsibility for EDRR, develop a list of partners for EDRR training and implementation.
- 1.19 Prioritize invasive species management and control for high conservation value forests.
- 1.20 Encourage the conservation and planting of native species, especially in urban areas and public natural areas.

Strategy 2: Restore and connect forests, especially in riparian areas

This strategy focuses on restoring forests to lands where their ecological services provide especially high public benefit. Riparian areas are particularly important in this regard as they offer enhanced potential for genetic exchange within species and reforestation. Potential corridors between important forest patches are identified in the accompanying map (See Figure 4).

Component: Develop corridors to connect isolated forest patches and enhance dispersal and genetic integrity – create and restore forest where it does not exist.

Actions Steps

- 2.1 Refine classification/identification of important forest corridors and connectivity areas and identify landowners for potential involvement.
- 2.2 Target landowner technical assistance and incentive funds to connect woodland patches, e.g. USDA's Conservation Reserve Enhancement Program (CREP). This action step requires Federal level legal or regulatory changes.
- 2.3 Targeted land acquisitions and easements.
- 2.4 During restoration utilize tree species that will foster broad range of ecologic benefits.

Component: Increase forest cover in riparian areas.

Actions Steps

- 2.5 Establish county-level forestation goals or minimum forest cover levels (see Figure 5).
- 2.6 Encourage forestation along stream and river corridors while utilizing existing tools to prioritize placement of forested riparian buffers: watershed tool, RUSLE, WEP.
- 2.7 Examine and modify where necessary Indiana drainage code as relates to forest riparian areas and maintenance of soil and water quality. This action step could require State level legal or regulatory changes.
- 2.8 Develop cost share programs for forestry activities, like tree planting, along riparian corridors and develop informational materials highlighting benefits of forested riparian buffers.

Strategy 3: Expand Best Management Practices with special attention to Invasive Species

The Indiana Logging and Forestry Best Management Practices (BMPs) resulted from the cooperative effort of representatives from logging, sawmilling, forestry, environmental, university, and regulatory agencies and interests and mainly focus on protecting soil and water resources during forestry activities. Stakeholders have identified the need for expanded guidance on more diverse issues, like invasive species control and other silvicultural practices.

Actions Steps

- 3.1 Expand BMPs to include invasive species, silviculture, and specialty situations, like urban forests and threatened and endangered species.
- 3.2 Review and revise Best Management Practices on 5-year cycle.
- 3.3 Promote and encourage the increased use of Forestry BMPs (see Strategy 4).
- 3.4 Broaden implementation of [‘Call Before You Cut’](#) program promoting sound timber harvesting practices.

Strategy 4: Coordinate education, training, and technical assistance, especially develop strategic partnerships

All the strategies in this document are achievable with cooperative effort from a variety of forest stakeholder organizations who understand the importance and value associated with retained and improved forest cover. All strategies will require unprecedented organization between partners across a variety of fronts.

Component: Develop strategic partnerships.

Actions Steps

- 4.1 Partner with land trust, landowner, watershed, forest product industry and urban forestry groups, especially in the implementation of strategies in this document.
- 4.2 Establish a private landowner database through GIS parcel information.
- 4.3 Utilize existing databases and directories to reach landowners, forest industry professionals, community decision makers and policy makers in general with special effort directed to groups and individuals involved in land use change decision making. Demonstrate advantages of forested corridors to local officials.
- 4.4 Enhance CREP to include native forests as a conservation concern by changing Farm Bill. This action step requires Federal level legal or regulatory changes.

Component: Promote forestry knowledge and understanding.

Actions Steps

- 4.5 Support efforts that encourage outdoor learning experiences for children inside and outside of the public education system, especially as relates to the importance of trees and forests.
- 4.6 Increase public awareness of forest benefits like multiple habitats (and the management that creates it) and threats like invasive species as measured by the recurring Indiana Residents' Perceptions of Woodland Management survey.
- 4.7 Target promotions of forest management plans, sustainable certification programs, Forestry Best Management Practices (BMPs), cost share programs, and the Classified Forest and Wildlands Program using GIS and updated county parcel information.
- 4.8 Enhance and expand training and education of private landowners with emphasis on field days, managing for woodland health and 'conserving the family woodlands'. Training should be planned in advance and advertised extensively for example in the Woodland Steward. This action step should include the use and expansion of the Indiana Demonstration Forest program. Written resources should be easily obtainable and presented in an easily understood format. (e.g. Landowners Guide to Managing Family Woodlands)

- 4.9 Establish a “resource pool” on invasives (a control/management forum with searchable archive) and a website that serves as a clearinghouse for information on invasives and management of invasives. Develop inventory of “stock” invasives articles for educational uses.
- 4.10 Stress the importance of deer herd management in maintaining a healthy understory of native plants and trees.

Component: Coordinate the delivery of forestry related programming.

The U.S. Department of Agriculture’s Natural Resources Conservation Service, U.S. Forest Service, Indiana Department of Natural Resources, Soil & Water Conservation Groups, Resource Conservation and Development Councils and Land Trusts are just a few of the many groups that deliver forestry related programming. Stakeholders identify benefits to coordination of these and other groups’ efforts.

Actions Steps

- 4.11 Coordinate training and implementation of forest programs across agencies, non-governmental organizations, landowner or other groups.
- 4.12 Provide landowners and managers with training, tools, and technical assistance to assess forest health on their lands.
- 4.13 Work with the Invasive Species Council to develop forest invasive species education program with separate focuses for technical staff and landowners. Include information on economics of invasives in training and communicate info on emerging invasives to on the ground staff.

Strategy 5: Maintain and expand markets for Indiana hardwoods, especially sustainably certified and local use

Indiana forests and their management are dependent upon diverse and sustainable markets to ensure economic return for landowners.

Actions Steps

- 5.1 Develop existing survey techniques and forestry remote sensing capabilities to assess forest composition and growing stock, especially the sustainability of traditionally high value species, among them: oak, walnut, cherry and maple.
- 5.2 Expand and improve the [Indiana Forestry Exchange](#) website to promote local exchange and interaction between market participants. Develop incentives for the use of Indiana forest products within the State, including the use of sustainably harvested Indiana hardwoods in [LEED](#) certified building projects.
- 5.3 Promote the development of a sustainable market for biomass from the State by establishing Biomass Harvesting Best Management Practices specific to the needs of Indiana's forests and incorporating third party sustainable certification.
- 5.4 Develop a unique Agricultural Commodity Check Off program for timber to provide funds for management incentives (50%), research (25%), and product promotion (25%). Timber Check Off program will improve the quality of hardwoods grown in Indiana, expand existing markets, increase demand and create new uses and markets.
- 5.5 Promote and refine proven practices of oak species regeneration and advocate State level deer management changes to reduce herd size impacts on understory.

Appendix A - Figures

Figure 1: Strategic Target Forest Patches

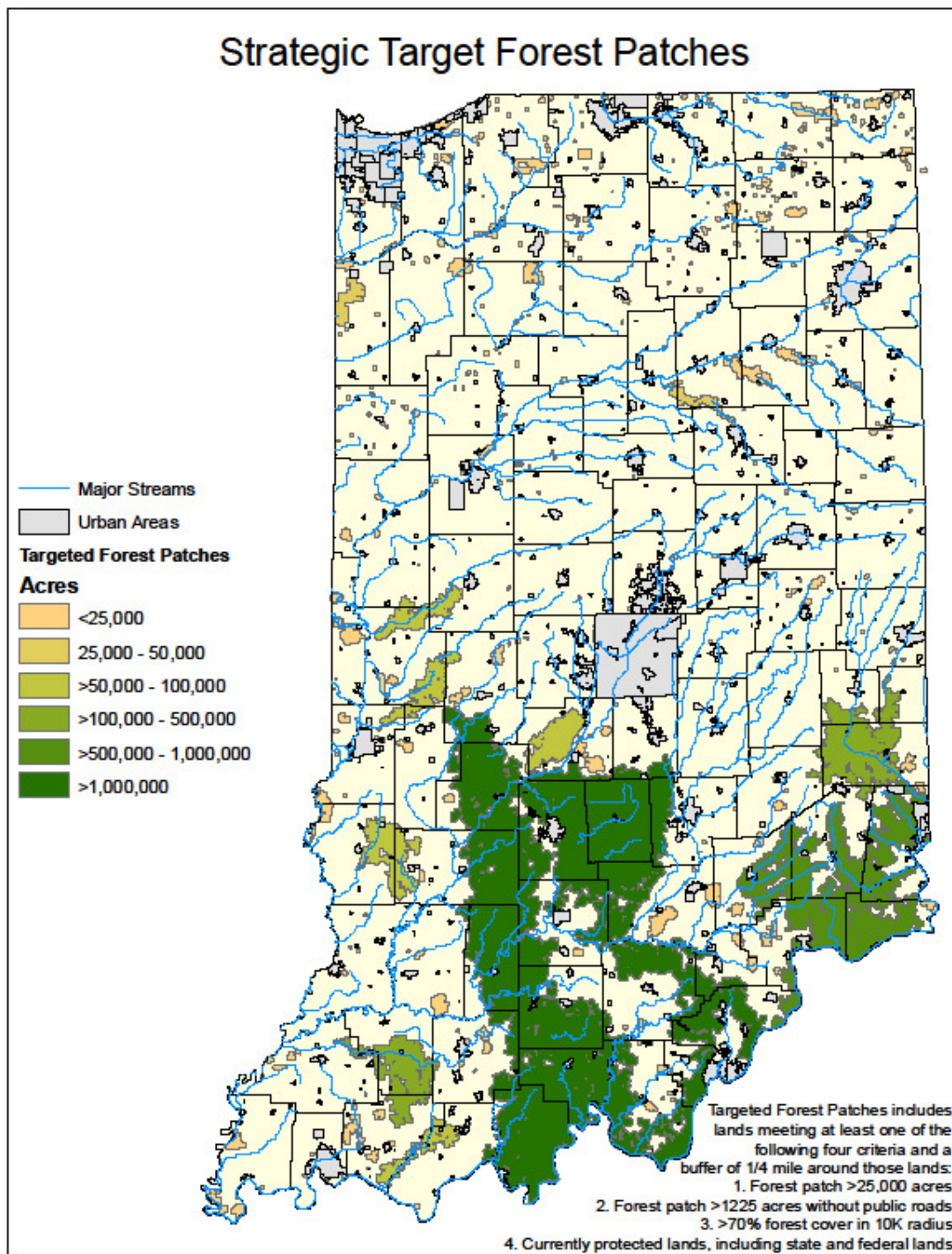
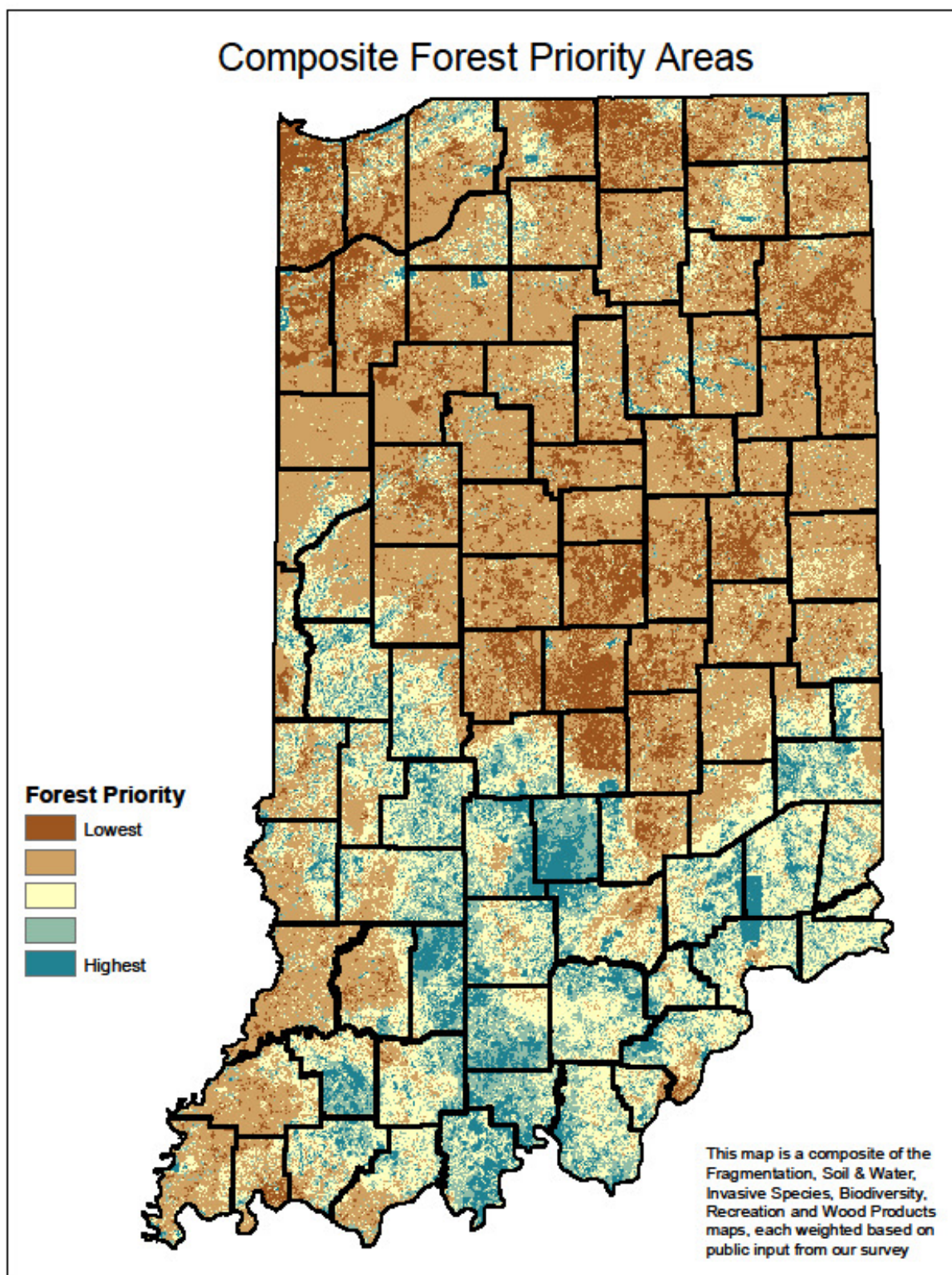


Figure 2: Indiana Statewide Forest Assessment – Composite Forest Priority Areas Map



(<http://www.igic.org/projects/indianamap/images/counties.jpg>, last accessed May 17, 2010)



Figure 4: Corridor and Connectivity Potential

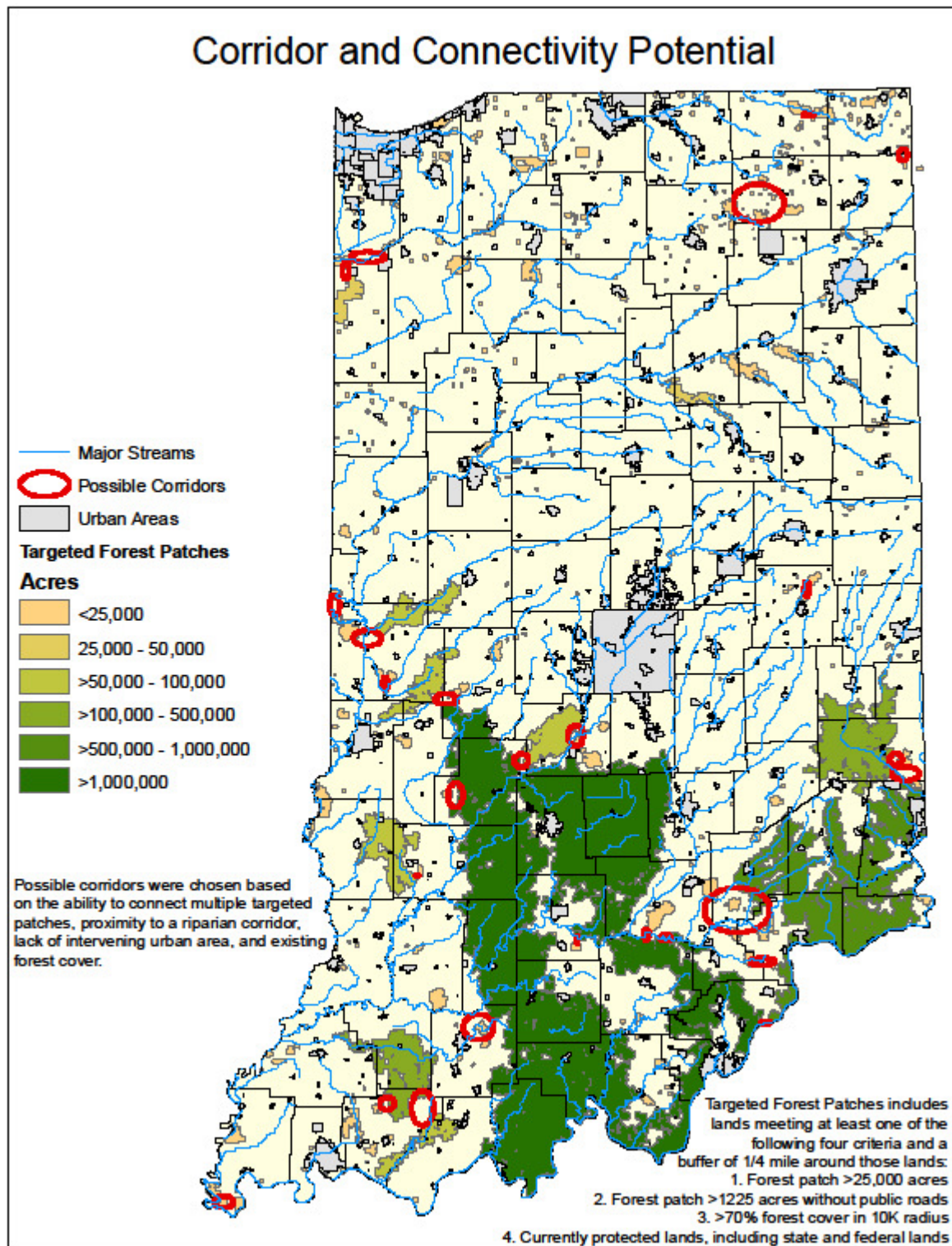


Figure 5: County by County % Forest and Total Forest Acres

[To be provided, details forested acreage by county and % forest cover by county land area.]

Appendix B – Target Forest Patches

Target Forest Patches are based on 2009 high resolution satellite imagery where areas are one of the following: greater than 25,000 acres in contiguous forest; greater than 1,225 acre contiguous “roadless” forest (i.e. no public roads); greater than 70% forest cover in a 10K radius; or currently protected lands, including Federal and State properties. These lands are buffered by ¼ mile. These forest patches also reflect the 2010 Statewide Forest Assessment’s Highest Priority Areas for Fragmentation, Soil & Water Conservation, Invasive Species Risk and Biological Diversity.

The Strategic Forestland Conservation Program’s 9 Target Forest Patches will each establish unique goals for forestland parcel size and percentages for:

- Forest cover
- Protection by conservation agreement/easement
- Public ownership
- Under management (i.e. mgmt. plan, incentive program, etc.)
- Classified Forest & Wildlands Program

Current measures for some of these items are provided in the table below.

Table 1: 2009 Target Forest Patch measures – Size, Forest Cover, Status relative to conversion, public ownership, and Classified Forest and Wildlands

Patch Location	Acres	% Forested	% Protected	% Public	% CFW
Shawnee/Brown County Hills, "The Big One"	2,532,989	68%	22.0%	21.8%	9.5%
Southeast	645,169	60%	11.4%	11.2%	5.1%
Decatur/Franklin/Fayette/Union	222,108	59%	8.7%	8.6%	7.9%
Gibson/Pike/Warrick/Dubois	139,686	62%	15.9%	15.9%	7.1%
Sullivan/Greene	96,458	50%	32.5%	32.5%	2.5%
Owen/Morgan	72,151	69%	7.7%	5.8%	8.9%
Vigo/Clay/Parke/Putnam	67,283	51%	5.6%	5.6%	13.0%
Parke/Fountain/Montgomery	62,092	57%	11.5%	11.2%	17.9%
Warrick/Spencer	54,448	53%	8.6%	8.6%	8.2%
Newton	27,363	31%	71.1%	71.0%	0.3%

Target Forest Patch maps by size:

